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REMARKS

Claim Rejections – 35 USC § 112 ¶ 2

The Examiner has rejected claims 1, 3 and 10-12 as indefinite under 35 USC § 112 ¶ 2. With the current amendments to such claims, applicants respectfully traverse the Examiner's rejections.

Claim Rejections – 35 USC § 103(a)

The Examiner has based his §103 rejections of claims 1 and 10-12 on Lin in view of Nilsen. Applicant respectfully submits that claim 1 as amended, for at least the following reasons, traverses the Examiner's rejections.

While the Examiner appears to agree with applicant that Lin presents a duplication of subgraphs approach, the Examiner's rejection appears to rest on the following statement:

Nonetheless, there is no requirement in the claims, explicit or implied, that duplication of subgraphs is not permissible.

Latest Office Action, ¶ 28. Applicants have amended the claims to further clarify that a duplication of subgraphs approach cannot be covered. For example, applicant refers the Examiner to the following portion of claim 1 as amended:

coupling, as a successor node to each node that saves a representation, the same successor node for resuming a flow of control state of the second thread

Applicants respectfully submit that having each node, that saves a representation, couple to the same successor node is antithetical to a duplication of subgraphs approach.

With a duplication of subgraphs approach, state information on the suspended process is implicit in the structure of the subsequent flow of control. By claiming, however, that all paths from a suspended process pass through the same node, such structural memory of state information is inherently lost. Further, applicant draws the Examiner's attention to the following portion of claim 1:

coupling, to each of a plurality of nodes of the SCFG indicated by the first thread, a node that saves a representation

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Since the claim specifies a plurality of nodes in the suspended process, one is assured that, under Lin's approach, subgraph duplication would be required.

Applicant also respectfully notes several other differences of the claimed invention compared with Lin. There is no node in Lin that "saves a representation, of a flow of control state of the first thread, in a first state variable," especially where that "first state variable is not used to save a representation of a flow of control state of the second thread." There is no node for "resuming a flow of control state of the second thread by reading a second state variable," especially where that "second state variable is not used to save a representation of a flow of control state of the first thread."

Applicant wants to note, for the record, that the Examiner is incorrect when he makes the following statement:

Applicant's Fig. 7 addresses two disjoint processes or threads that do not necessarily have any data dependencies between them.

Latest Office Action, ¶ 28. The specification specifically states the following regarding Figure 7:

There are two edges in Figure 7, specifically the edge from node 3 representing the statement "emit B" to node 4 representing the statement "conditional B" and the edge from node 5 representing the statement "emit C" to node 6 representing the statement "conditional C," that depict data edges. As can be seen, these two data edges are distinguished by being drawn with jagged lines.

Specification, page 11, lines 18 to 23. Thus, the example of Figure 7 is specifically structured to include data dependencies.

Applicant also wants to note for the record that the Examiner is incorrectly asserting, in the following statement, a causal connection between whether processes are interrelated and whether subgraph duplication is required:

As the claims are presented, a context switch may occur between two disjoint processes or two processes that are interrelated. In such a circumstance, Lin would not duplicate subgraphs since the common transitions are collapsed.

Latest Office Action, ¶ 28. While the Examiner has left the antecedent ambiguous in the phrase "[i]n such a circumstance," applicant understands the Examiner to be asserting that in the circumstance where processes are disjoint,

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subgraph duplication is not needed by Lin. This assertion is incorrect. It is the structure of the control flow, of the process that is being suspended, that is the controlling factor in whether subgraph duplication is needed: one does not need to duplicate subgraphs in Lin when the process being suspended can only be in one state after the suspension has ended.

For disjoint processes, it is true that one can always complete one process before starting another and thereby eliminate the need for subgraph duplication. However, one can still choose to (or need to) interleave disjoint processes at points where multiple next states are possible.

Interprocess communication can occur at points that may or may not compel subgraph duplication. Therefore, merely knowing that interprocess communication exists does not causally imply that subgraph duplication is needed with Lin.

Further, in the above quotation from the Examiner's Office Action, it is unclear what the phrase "common transitions" is referring to. Applicant respectfully requests that the Examiner specifically refer to, in Lin, the locations where a definition and an example of a "common transition" are provided.

Since claims 2-9 are dependent on claim 1, claims 2-9 are allowable for at least the same reasons. Since claims 10-12 are similar to claim 1, with the exception of their being in data processing system, computer program product and computer data signal form, such claims are also allowable for at least the same reasons.

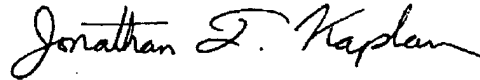
Summary

Applicant respectfully submits that all 35 USC § 112 and §103 rejections have been traversed. Therefore, applicant requests a Notice of Allowance be granted.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 502584 referencing docket number 06816.0158.

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Respectfully submitted,



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